



PRECAST PANEL SUPPORT
AND RESTRAINT SYSTEMS

09

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PRECAST PANEL SUPPORT AND RESTRAINT SYSTEMS

CFS have developed an innovative solution for precast cladding supports which are cost effective and make optimal use of material. This unique shoe system is designed to be cast into the concrete panel and produced in a range of projections to suit different cavity widths.

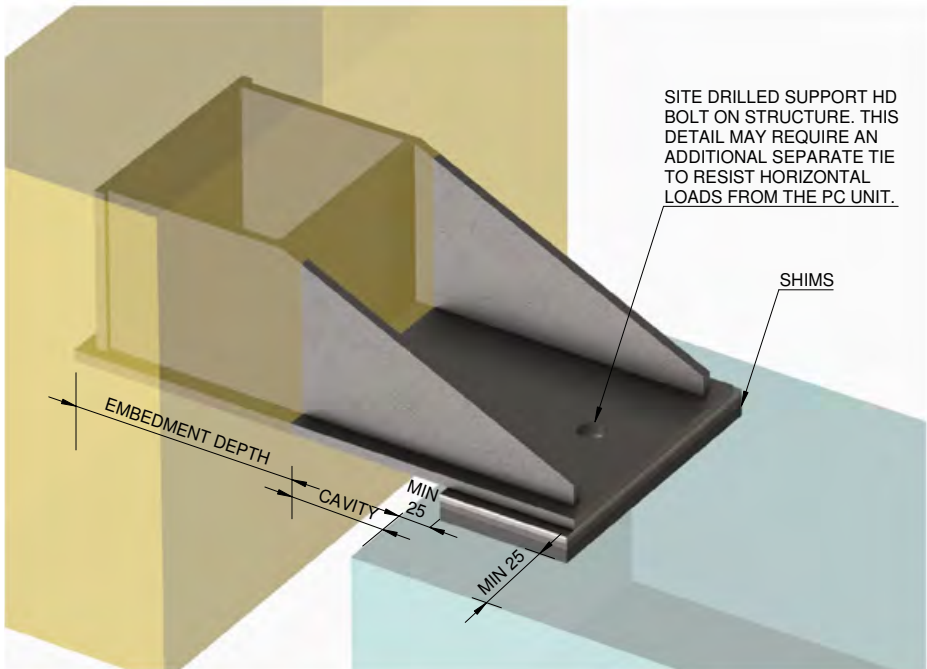
Precast Cladding Panel Support and Restraint Systems are quick and easy to install as well as more efficient than traditional angles, which use thicker sheet metal.

* Products are available in stainless steel A2, A4 and Duplex.

For bespoke CFS design please provide: cavity size, weight of the cladding panel, loads and required restraint capacities.

*All the information shown in this section is for guidance only. Bearing Shoe SB can be installed in the top or at the bottom of the Precast Panel Unit. Minimum edge distances can vary according to the project. 25 mm is minimum bearing edge distance.

Slab Bearing Shoe CFS - SB



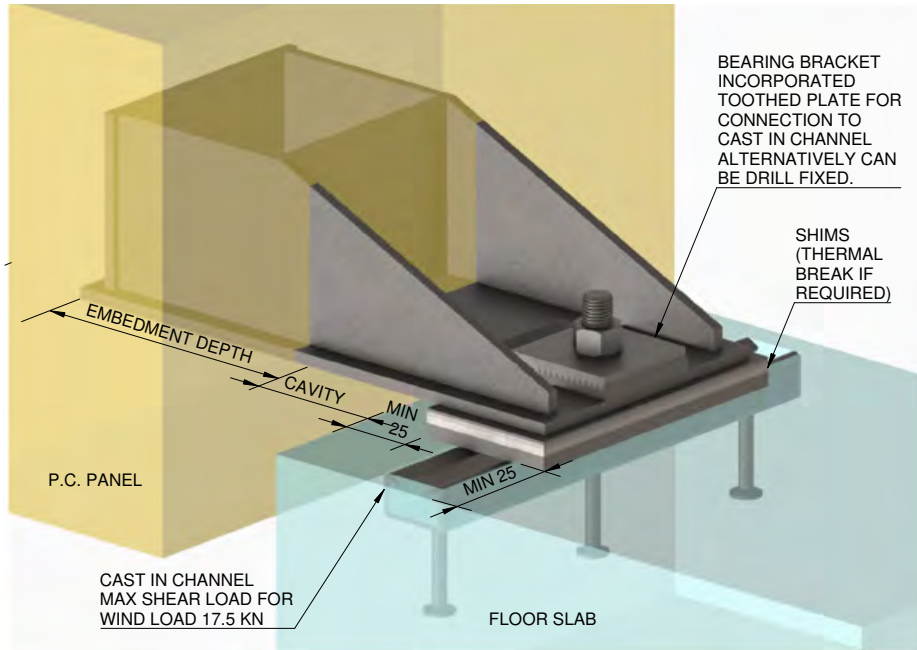
Type	Working Load*, kN	Cavity size, mm				Panel Thickness		
CFS-SB	25	60	100	125	150	150	175	200
CFS-SB	45							
CFS-SB	60							

* Loads may vary depending on the project

Key Benefits

Designed to be very cost effective with optimal use of material. Designed to be cast-in to the concrete panel produced in range of projections to suit project cavity widths.

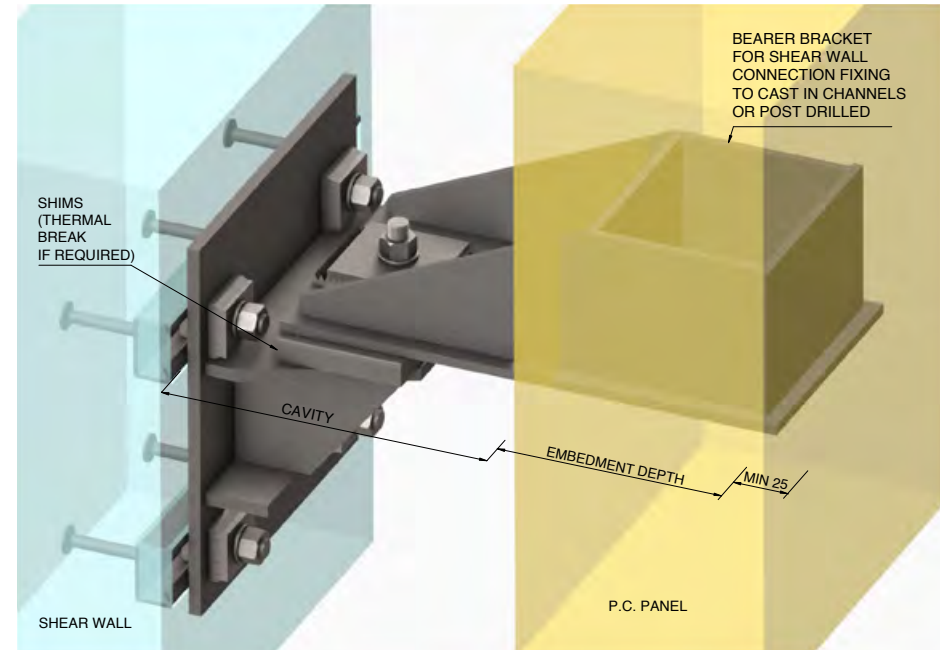
Slab Bearing Shoe With Restraint CFS-SBR



Type	Working Load*, kN	Cavity size, mm				Panel Thickness		
CFS-SBR	25							
CFS-SBR	45	60	100	125	150	150	175	200
CFS-SBR	60							

* Loads may vary depending on the project

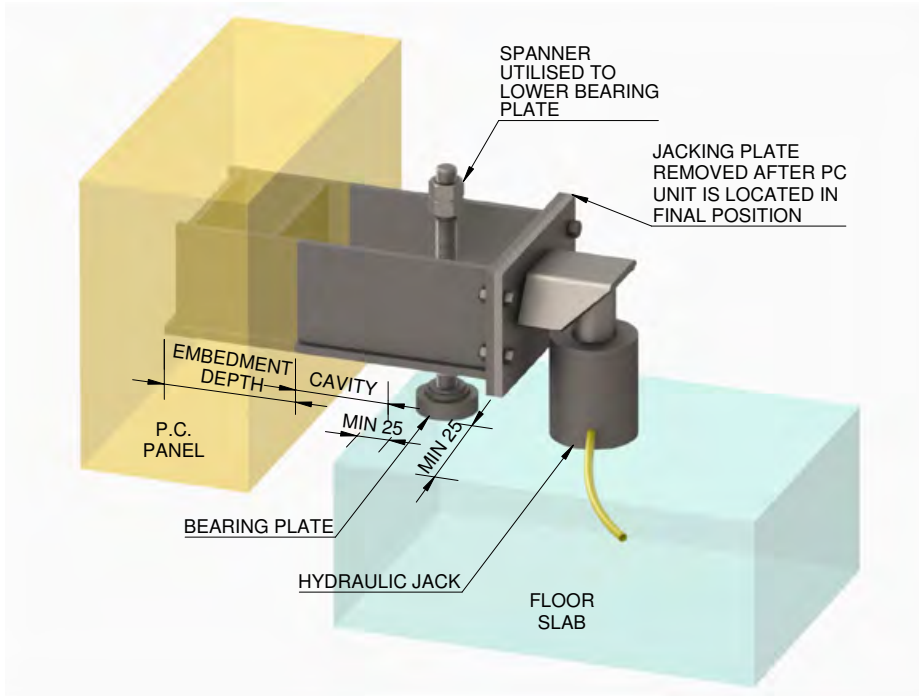
Shear Wall Connector CFS-SBW



Type	Working Load*, kN	Cavity size, mm				Panel Thickness		
CFS-SBW	25							
CFS-SBW	45	60	100	125	150	150	175	200
CFS-SBW	60							

* Loads may vary depending on the project

Slab Bearing Shoe With Separate Hydraulic Jack CFS-SBJ

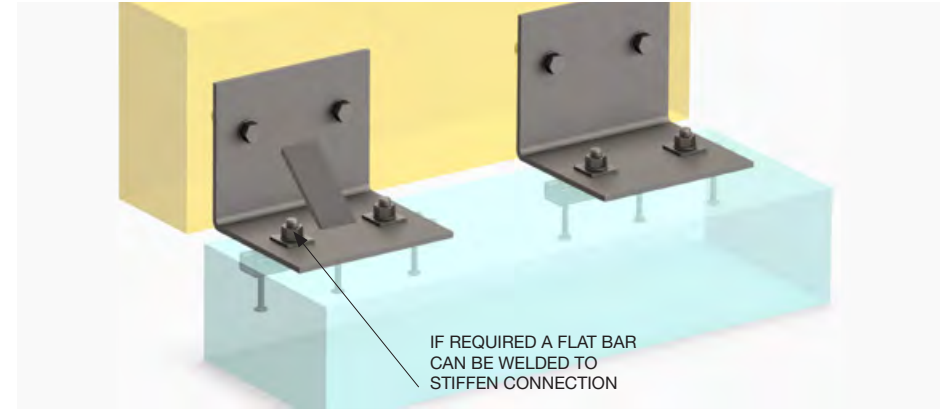


Removable Hydraulic Jack is used to install precast panel to the required level. After installation Hydraulic Jack must be removed.

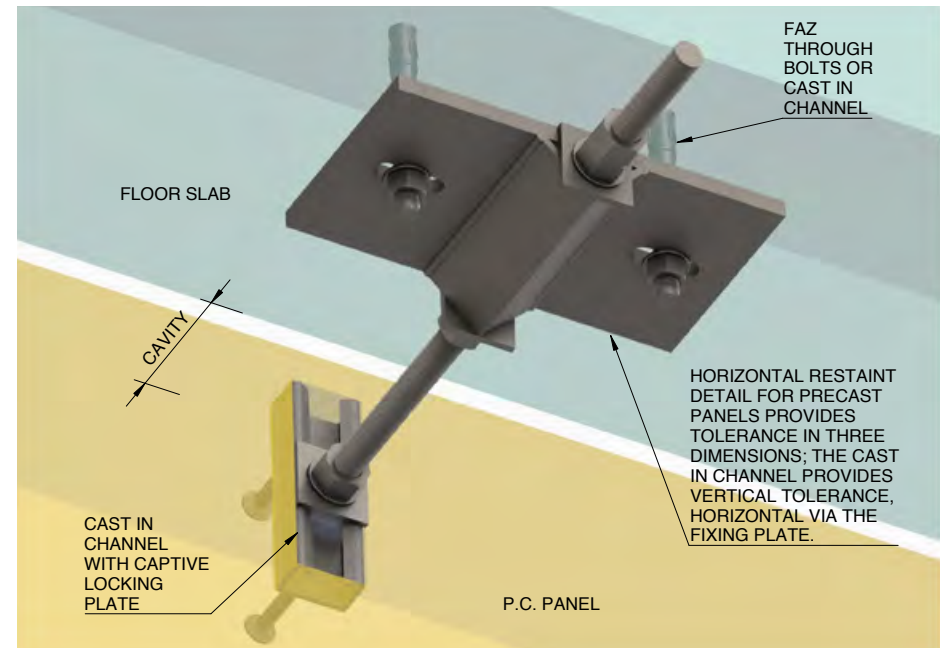
Type	Working Load*, kN	Cavity size, mm				Panel Thickness		
CFS-SBJ	25	60	100	125	150	150	175	200
CFS-SBJ	45							
CFS-SBJ	60							

* Loads may vary depending on the project

Angle Cleats CFS-AC



Horizontal Restraint CFS-WH

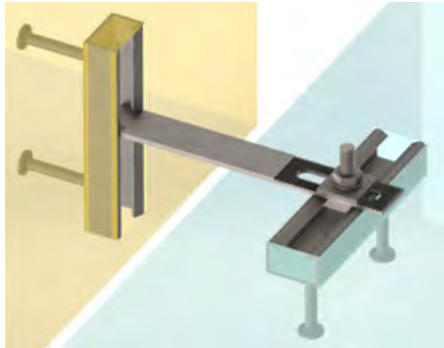


Information about Channels for flexible fixing points in concrete structures can be found in Section 9, Cast-in Channels.

Type	Working Load*, kN	Cavity size, mm				Panel Thickness		
CFS-WH	12.5	60	100	125	150	150	175	200
CFS-WH	20							

* Loads may vary depending on the project

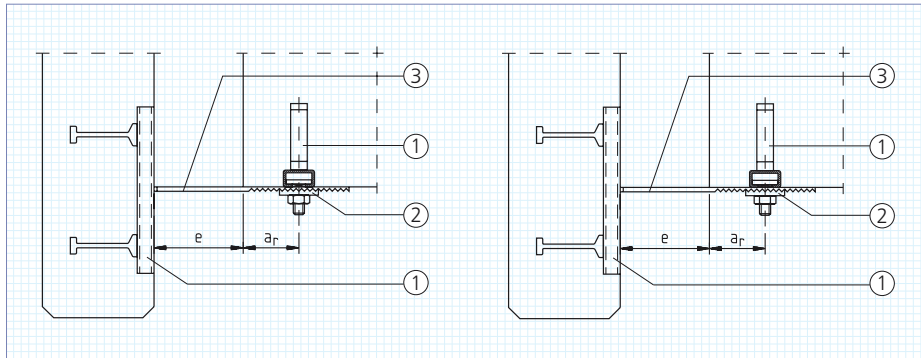
TOOTHED RESTRAINT ANCHOR TYPE HKF



As tensile- and compressive-secure connection

Toothed anchor with T-head

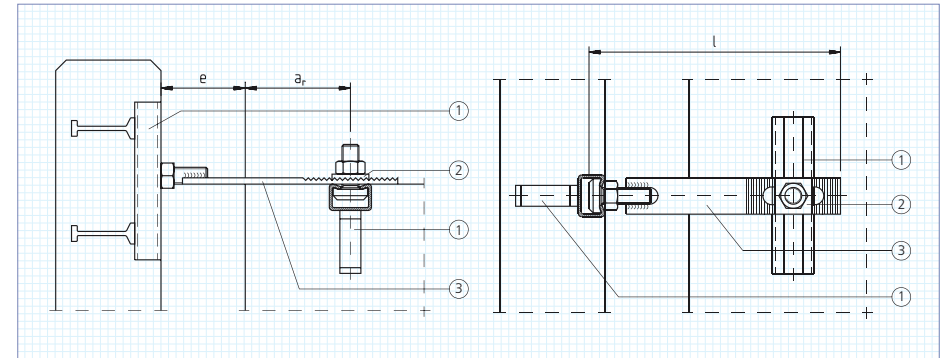
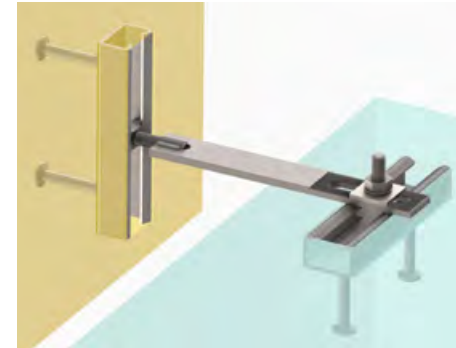
A restraint anchor providing tolerances in 3 dimensions



Pos	Load rating 3.5 kN (Tensile/Compressive force)	Load rating 5.5 kN (Tensile/Compressive force)	Load rating 7.0 kN (Tensile/Compressive force)
1	C-channel, type 40/25/150 Part no. CH-38-150	C-channel, type 49/30/150 Part no. CH-38-150	C-channel, type 49/30/150 Part no. CH-38-150
2	T-head bolt M10 x 30, type 28/15, Part no. 07FTB-28-10-30 with toothed plate 30 x 30 x 4mm Part no. 03HKTF-30/30-11	T-head bolt M12 x 30, type 38/17, Part no. 07FTB-38-12-30 with toothed plate 30 x 30 x 4mm Part no. 03HKTF-30/30-13	T-head bolt M12 x 30, type 38/17, Part no. 07FTB-38-12-30 with toothed plate 30 x 30 x 4mm Part no. 03HKTF-30/30-13
3	Toothed anchor 35 x 4 mm with T-head, Part no 03HKF-350-L L = e + 110 (mm)	Toothed anchor 35 x 5 mm with T-head, Part no 03HKF-550-L L = e + 135 (mm)	Toothed anchor 35 x 5 mm with T-head, Part no 03HKF-700-L L = e + 135 (mm)
e	max. e = 120mm*	max. e = 120mm*	max. e = 120mm*
ar	50mm	75mm	75mm

* For bigger e-values the permitted pressure values must be reduced if necessary – only on request

TOOTHED RESTRAINT ANCHOR WITH WELDED T - BOLT WWH



Pos	Load rating 8.0 kN (Tensile/Compressive force)	Load rating 12.0 kN (Tensile/Compressive force)
1	C-channel, type 40/25/150 Part no. CH-4 400-150	C-channel, type 49/30/150 Part no. CH-49-150
2	Hook-head bolt M 16 x 40, type 40/22, Part no. 07FTB-40-16-40 with toothed plate 30 x 30 x 4 mm	Hook-head bolt M 16 x 50, type 50/30, Part no. 07FTB-49-16-50 with toothed plate 30 x 30 x 4 mm
3	Toothed anchor 35 x 6 mm (max. e = 90 mm)* or 35 x 8 mm with welded on hook-head screw, Part no. 03HKFP-800-L L = e + 160 (mm)	Toothed anchor 35 x 8 mm (max. e = 90 mm)* or 35 x 10 mm with welded on hook-head screw, Part no. 03HKFP-1200-L L = e + 210 (mm)
e	max. e = 220mm*	max. e = 220mm*
ar	100mm	150mm

* For bigger e-values the permitted pressure values must be reduced if necessary – only on request

PRECAST PANEL SUPPORT AND RESTRAINT PROJECT PICTURES

